3. UPPER CRETACEOUS POLLEN GRAINS FROM EGYPT VI.

M. KEDVES

Cell Biological and Evolutionary Micropaleontological Laboratory of the University of Szeged, H-6701, P.O. Box 993, Szeged, Hungary

Abstract

Intratriporopollenites aegypticus n. fsp. is described in this short communication. The most important earliest occurrences of the fossil "tilioide pollen grains" is discussed. In the context of Africa the new pollen grain described is the oldest.

Key words: Palynology, fossil, *Tiliaceae*, Upper Cretaceous, Egypt.

Form-genus: *Intratriporopollenites* PFLUG et THOMSON 1953

Triaperturate pollen grains, the well developed endanuli are the most important characteristic features of these fossil *Tiliaceae* pollen grains. Further taxonomic information about Tertiary species was published by MAI (1961). In the original diagnosis, the sculpture was not mentioned. MAI (1961) added the presence of a reticulate sculpture to the diagnosis.

Intratriporopollenites aegypticus n. fsp.
(Plate 3.1., figs. 1-8)

Diagnosis: Amb circular to triangular, with concave sides. Surface smooth to scabrate. The inter-apertural exine is 2.6-3.2 µm thick and the foot layer is relatively very thick, T/I/F = 1.5-2/1/4-5. Structure finely intrabaculate. The furrows are 10-18 µm long and are bordered by a 2 µm wide thickened zone. Endannulus is about 3-4 µm wide.

Diameter: 33 µm; 30-38 µm.

Holotype: Plate 3.1., figs. 1-4, slide: Farafra-6-2-1-8; cross-table number: 7.6/106.4.

Locus typicus: Farafra, Maestrichtian, Nubia Sandstone.

Stratum typicum: clay.

Derivatio nominis: From Egypt.

Differential diagnosis: Based on the emended diagnosis by MAI (1961), this species may not belong to this form-genus, because of its non-reticulate surface, which distinguishes it from the other species of *Intratriporopollenites*. Further information is necessary to decide whether or not these non-reticulate Tilioide-forms represents another new form-genus . In any case these "aegypticus type" forms may be the earliest *Tiliaceae* pollen from North Africa.

Botanical affinity: *Tiliaceae.*

Occurrence and frequency in the samples investigated from Egypt: Maestrichtian, Nubia Sandstone: Farafra (6-2-1), infrequent.

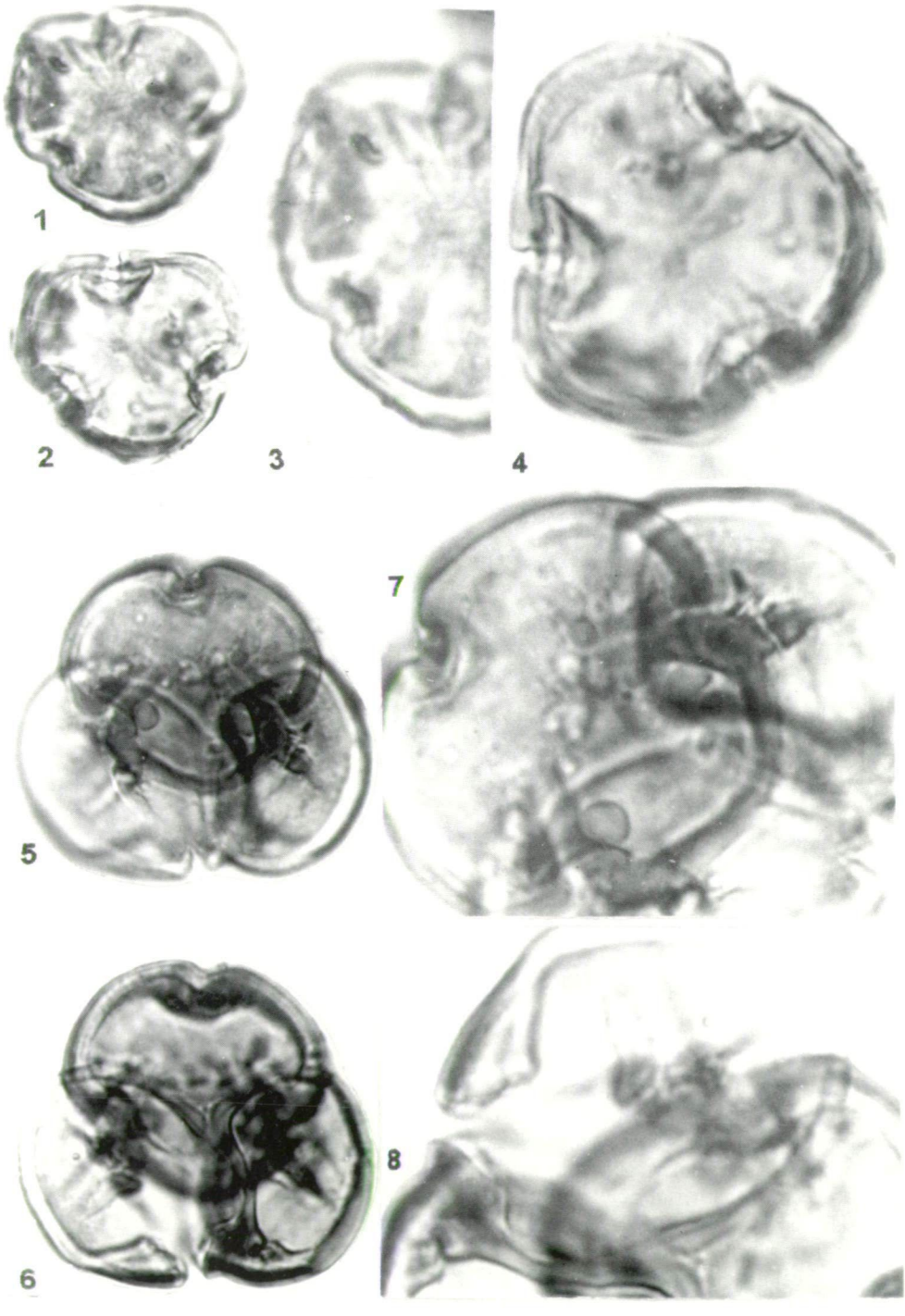

Plate 3.1.

Plate 3.1.

1-8. *Intratriporopollenites aegypticus* n. fsp., *Tiliaceae*.
1,2. Slide: Farafra-6-2-S1, cross-table number: 7.6/106.4, 1000x.
3,4. Slide: Farafra-6-2-S1, cross-table number: 7.6/106.4, 2000x.
5,6. Slide: Farafra-6-2-S1, cross-table number: 20.4/103.6, 1000x.
7,8. Slide: Farafra-6-2-S1, cross-table number: 20.4/103.6, 2000x.

Remarks: Following MULLER (1981) the *Tilia* type pollen grains appeared in the Paleocene. He pointed out the following, p. 45: "The first appearance of the *Tilia* type thus appears to be approximately contemporaneous in Europe and North America." *Tilia wodehousei* n.sp. was described by ANDERSON (1960) from the Kirtland shale florule, Uppermost Cretaceous, San Juan Basin, New Mexico. *Tiliaepollenites indubitabilis* POTONIÉ was published by SONG ZHICHEN et al. (1981) from Cretaceous-Tertiary layers of northern Jiangsu. Paleocene/Eocene occurrences were published by DOERENKAMP, JARDINÉ and MOREAU (1976), *Tiliaepollenites* and by KRUTZSCH (1957), "Gruppe 71: sog. " + glatte tilioide-Formen".

Finally it seems that the Upper Cretaceous *Tiliaceae* pollen grain from Egypt is the oldest within this kind of pollen grains.

References

ANDERSON, R.Y. (1960): Cretaceous-Tertiary Palynology, Eastern Side of the San Juan Basin, New Mexico. - State Bur. Min. and Miner. Res. New Mexico Inst. Mining and Techn. *6*, 1-59.

DOERENKAMP, G., JARDINÉ, S. and MOREAU, P. (1976): Cretaceous and Tertiary palynomorph assemblages from Banks Island and Adjacent areas (N.W.T.). - Bull. Canad. Petroleum Geol. *24*, 321-371.

KRUTZSCH, W. (1957): Sporen- und Pollengruppen aus der Oberkreide und dem Tertiär Mitteleuropas und ihre stratigraphische Verteilung. - Zeitschrift für angew. Geol. *11/12*, 509-548.

MAI, D.H. (1961): Über eine fossile *Tiliaceen*-Blüte und tilioiden Pollen aus den deutschen Tertiär. - Geologie *10* BH *32*, 54-93.

MULLER, J. (1981): Fossil pollen records of extant *Angiosperms*. The Bot. Rev. *47*, 1-146.

PFLUG, H.D. und THOMSON, P.W. (1953): In: THOMSON, P.W. und PFLUG, H.D.

THOMSON, P.W. und PFLUG, H.D. (1953): Pollen und Sporen des mitteleuropäischen Tertiär. - Palaeontographica *B, 94*, 1-138.

SONG ZHICHEN, ZHENG YAHUI, LIU JINGLING, YE PINGYI, WANG CONG FEN and ZHOU SHAN FU (1981): Cretaceous-Tertiary sporo-pollen assemblages of northern Jiangsu. - Geol. Publ. House, Beijing (Chinese with English summary).